

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
6 May 2004 (06.05.2004)

PCT

(10) International Publication Number
WO 2004/039135 A1

(51) International Patent Classification⁷: **H05K 1/00**,
D03D 15/00

(21) International Application Number:
PCT/US2003/014830

(22) International Filing Date: 13 May 2003 (13.05.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/421,480 24 October 2002 (24.10.2002) US

(71) Applicants and

(72) Inventors: **HOUGHAM, Gareth, G.** [US/US]; 151 South Highland Avenue, Apt. 6B, Ossining, NY 10562 (US). **FOGEL, Keith, E.** [US/US]; 4 Lucs Lane, Mohegan Lake, NY 10547 (US). **LAURO, Paul, A.** [US/US]; 25 Pine Road, Brewster, NY 10509 (US). **ZINTER, Joseph** [US/US]; 150 Starr Ridge Road, Brewster, NY 10509 (US).

(74) Agent: **GROLZ, Edward, W.**; Scully, Scott, Murphy & Presser, 400 Garden City Plaza, Garden City, NY 11530 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: LAND GRID ARRAY FABRICATION USING ELASTOMER CORE AND CONDUCTING METAL SHELL OR MESH

(57) Abstract: Methods for fabricating Land Grid Array (LGA) interposer contacts that are both conducting and elastic. Also provided are LGA interposer contacts as produced by the inventive methods. Provided is LGA type which utilizes a pure unfilled elastomer button core that is covered with an electrically-conductive material that is continuous from the top surface to the bottom surface of the button structure. In order to obviate the disadvantages and drawbacks which are presently encountered in the technology pertaining to the fabrication and structure of land grid arrays using electrically-conductive interposer contacts, there is provided both methods and structure for molding elastomer buttons into premetallized LGA carrier sheets, and wherein the non-conductive elastomer buttons are surface-metallized in order to convert them into conductive electrical contacts.